R E P O R T R E S U M E S

ED 015 067 RC 002 059

UPGRADING ISOLATED SMALL SCHOOL PROGRAMS, THE WESTERN STATES SMALL SCHOOLS PROJECT.

BY- GANN, ELBIE L.

PUB DATE 23 OCT 67

EDRS PRICE MF-$0.25 HC-$0.96 22P.

DESCRIPTORS- BOARDS OF EDUCATION, CORRESPONDENCE COURSES, *CURRICULUM DEVELOPMENT, COMMUNITY SUPPORT, *EDUCATIONAL PRACTICE, FACULTY, HIGH SCHOOLS, *INSTRUCTIONAL IMPROVEMENT, LEARNING, MULTIGRADED CLASSES, MULTIMEDIA INSTRUCTION, NONGRADED SYSTEM, *PROJECTS, PROGRAMED MATERIALS, *SMALL SCHOOLS, SCHOOL REDISTRICTING, SHARED SERVICES, TEACHING METHODS, TEAM TEACHING, TEACHER AIDES,

THE HISTORY OF SMALL SCHOOLS REVEALS THAT EVEN AFTER MASSIVE REDISTRICTING IN THE 1950'S THERE WERE OVER 5000 SMALL HIGH SCHOOLS IN THE UNITED STATES WHICH COULD NOT BE REDISTRICTED. MOST OF THESE SCHOOLS WERE FINANCIALLY UNABLE TO PUT MORE MONEY INTO THEIR PROGRAMS, AND AS A RESULT MANY BECAME INVOLVED IN PROJECTS (10 ARE DESCRIBED HERE) WHICH WERE TO BE ATTEMPTED IMPROVEMENTS IN THE TEACHING-LEARNING PROCESS. MULTIGRADED CLASSES, CORRESPONDENCE COURSES, MULTIMEDIA INSTRUCTION, PROGRAMED MATERIALS, CURRICULUM DEVELOPMENT, AND SHARED SERVICES WERE AMONG THE PRACTICES ATTEMPTED IN DIFFERENT AREAS. THE SPECIFIC PRACTICES THAT SEEMED TO HOLD MOST PROMISE FOR SMALL SCHOOLS WERE THE NONGRADED SYSTEM, TEAM TEACHING, TEACHER AIDES, AND INDIVIDUALIZED INSTRUCTION IN THE ONE-TEACHER SCHOOL. IT APPEARS TO BE TRUE THAT ADOPTION OF THE AFOREMENTIONED EDUCATIONAL PRACTICES CAN HELP PREVENT THE ISOLATED SMALL SCHOOL FROM BEING INFERIOR IF THERE IS COMMUNITY SUPPORT, BOARD OF EDUCATION SUPPORT, AND IF AN EXPERIENCED AND HIGHLY TRAINED FACULTY CAN BE EMPLOYED. THIS SPEECH WAS PRESENTED AT THE NATIONAL OUTLOOK CONFERENCE ON RURAL YOUTH, OCTOBER 23-26, 1967, WASHINGTON, D. C., SPONSORED JOINTLY BY THE U. S. DEPARTMENTS OF AGRICULTURE, HEALTH, EDUCATION, AND WELFARE, INTERIOR, AND LABOR, OEO, AND THE PRESIDENT'S COUNCIL ON YOUTH OPPORTUNITY. (JS)

ED015067

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

Session on Education and
Training of Rural Youth

Speech presented at
NATIONAL OUTLOOK CONFERENCE
ON RURAL YOUTH
October 23-26, 1967
Washington, D. C.

RECEIVED
DEC 18 1967
NMSU
E.R.I.C.

UPGRADING ISOLATED SMALL SCHOOL PROGRAMS
(The Western States Small Schools Project)

Dr. Elbie L. Gann
Executive Secretary
Colorado Education Association
Englewood, Colorado

Introduction

A brief look at the history and rationale of small school improvement programs is important. Proper perspective cannot be developed without it.

In the early history of American education it is found that small schools, close enough to be reached on foot or on horseback were the common type. Three major factors have made the reduction of the number of small rural schools desirable. These are: (1) the need for more fully educated people, (2) the improvements in transportation, and (3) the decline of the number of rural population. As a logical result, America has spent many years reorganizing school districts and consolidating schools.

From a statistical point of view, the reduction of the number of small schools in America has been dramatic. In terms of using the dollars for education wisely and meeting the objectives of education, this reduction has been necessary. It is a process which is not yet completed. But there will be others on this program who will report the advantages of consolidation and reorganization. My opportunity today is to report on an exciting additional facet of the improvements in small schools.

In the early 1950's America was in a massive reorganization and consolidation program. As a superintendent in a small, isolated school in the mountains of Colorado, I had twice gone through maximum consolidation and reorganization. While the districts I had worked in had reorganized to be 1500 square miles and 750 square miles respectively, not one pupil had been added because of consolidation. We had been the only school system in the area before. The North Central Association accreditation office had suggested consolidation for improvement. It was now suggested that we hire additional teachers. This was not feasible because we already had a low pupil teacher ratio and were financially unable to afford additional teachers. It was then, in 1951, that we began our search for other answers to the problems of teacher utilization and adequate curriculum.

RC 002 059

Dr. Elbie L. Gann

In 1953-54 a group of graduate students, under the guidance of Dr. Frank Cyr, Teachers College, Columbia University, developed a theory of small school design. Out of this came the first two small school improvement projects, the Catskill Area Project in Small School Design and the Rocky Mountain Area Project for Small High Schools.

In an unpublished survey done for the Fund for the Advancement of Education in 1960 several important facts were documented. Personal visits were made to twenty-one rural States for visits, discussions, and documentation. In the opinions of the State Commissioners of Education in these States, there were over 5,000 high schools enrolling under 200 students which could not be eliminated through optimum consolidation.1/

As one who has been involved in this development from the beginning, I have found it the most stimulating aspect of my education career. When several of us first recognized that there were many schools across the nation that would always be small if local educational opportunity was to be maintained, we feared attack from the proponents of reorganization. At no time did any of us have in mind that we would seek a substitute for wise reorganization and consolidation. It was only that adequate answers did not exist for small schools too isolated to be consolidated. For too long the only answers had been consolidate, eliminate or tolerate.

Throughout the small school projects small has been defined to include high schools enrolling 200 or fewer children in the upper four grades and those elementary schools sending students to such high schools. Eligibility for participation has mostly been limited to schools fitting this definition and for which additional consolidation was not presently feasible. There have been only minor exceptions to this set of standards.

Limitations

The small school projects limit their efforts to assisting with the teaching-learning process in the necessarily existent small school. The efforts have been to:

a. Expand the educational opportunity of the student;
b. Improve the effectiveness of the teacher;
c. Utilize modern technology and new learning theory;
d. Accomplish these ends at no great additional cost.

No attempt will be made to present an exhaustive list of small school operations, but only to synthesize cases which seem significant. All practices have not been directly observed or extensively evaluated. Most are still in process.2/

Dr. Elbie L. Gann

The Small School Improvement Projects

The small school improvement projects actually began in 1957. Most have included a group of schools and have been centrally coordinated. While some have been completed, others are still in progress. A brief description of the better known projects is as follows:

The Catskill Area Project in Small School Design

The Catskill Area Project was initiated in 1957 under the joint sponsorship of Teachers College, Columbia University; Oneonta State Teachers College; and the Board of Cooperative Services of the several school districts located around Oneonta, New York.3/ Member schools experimented with multiple class teaching, supervised correspondence courses, shared services, film teaching, programed instruction, and technological devices for teaching. Also, gifted youth seminars were conducted on the campus at Oneonta. The project covered three years, during which extensive inservice development programs were conducted with the project teachers and project school administrators. The Ford Foundation provided partial financial support.

The Education Resources Program

In 1957 a project was initiated by Goddard College in attempting to provide better qualified teachers to small multigrade elementary schools throughout the State of Vermont.4/ The work was carried out principally with those schools located nearest Goddard College. The program placed emphasis on providing promising student teachers and competent supervision for the participating small elementary schools. Saturday morning seminars on the college campus have also provided for the needs of able and ambitious high school youngsters. The Ford Foundation provided partial financial support.

The Rocky Mountain Area Project for Small High Schools

The RMAP was initiated in 1957 under the sponsorship of the Colorado State Department of Education.5/ In the beginning it involved five small high schools, and the number eventually grew to 32. The Ford Foundation provided partial financial support.

The project explored multiple class teaching, intraclassroom grouping for instruction, the Baxter and White Physics and Chemistry films, youth seminars of able students, use of correspondence courses, and broader uses of community resources. The work level was with teachers and administrators of small local schools. The RMAP directly involved a State department of education acting in partnership with experimenting schools. To facilitate this role, it waived restrictive regulations

if adequate experimental design could be developed. In 1962 RMAP was absorbed into the Western States Small School Project.

The Rural School Improvement Project

In 1953, a small school improvement project was initiated in southeastern Kentucky under the sponsorship of Berea College and with partial financing by the Fund for the Advancement of Education.

> "There were five basal areas in which most of the work of the project was concentrated. These areas were: (1) the teacher; (2) the pupil; (3) the community; (4) the building, equipment, and grounds; and (5) the program of supervision utilized in carrying out the activities within the other four names areas. The Project activities were centered about the teacher, since two of the fundamental assumptions of the Project were: (1) good teachers are indispensable for good schools; and (2) good schools make for good communities. Efforts in all the five areas were ultimately directed at the intellectual, social, physical, and emotional growth of the pupil."6/

The Upper Susquehanna Valley Project

The Upper Susquehanna Valley Project, headquartered at Bucknell University, emphasized projects in science, curriculum development, and use of the Harvey White Physics films.7/ In addition, they have conducted programs to give special attention to gifted youngsters to compensate for the "scarcity of educational and cultural facilities in the rural school." Most recently they have emphasized projects in programed materials in mathematics for superior students. The project has received financial assistance from the National Defense Education Act and from the Ford Foundation.

Projects in Progress

Each of the following reported projects involves more than 100 schools. The Texas Small Schools Project operates presently on a regional improvement plan. The Western States Small Schools Project results from a compact of five States agreeing to experiment, research, coordinate certain of their activities, and share findings. Some reports are available from both projects.

The Texas Small Schools Project

In 1959 the Texas Education Agency initiated a Statewide small school improvement.8/ The State was divided into nine regions and each region organized itself to conduct inservice programs throughout the calendar year. Consultation, coordination, and encouragement were provided from

the Texas Education Agency. An educational development project, the Texas schools have selected applicable practices from other projects, including the NASSP Staff Utilization Study. The groups then modified the programs for their own use. The Texas Small Schools Project continues and is significantly shaping the role of the Texas Education Agency. It is the only one of these reported which is operating without outside financial assistance.

The Western States Small Schools Project

Experience in working on active solutions for the necessarily existent small schools indicates that many of the problems cannot be attacked by a single school system, or even a single State.9/ The proposed solutions, to be useful, must be diversely tested. Quite logically, then, a regional effort is the next step in discovering, testing, and documenting new practices. The Western States Small School Project represents such an effort. It includes Arizona, Colorado, Nevada, New Mexico, and Utah. The project is possible because all five State departments of education have formally agreed to associate for this purpose. The States which comprise the Western States Small Schools Project are similar in many ways as are their rural schools. Notable is the fact that they contain few students rather than too many. But differences among States and schools strengthen testing features on the project.

The WSSP provides the opportunity for each State to focus upon its unique problems and, as well, to cooperate with its neighbor project States in finding the answers common to all. Findings resulting from this program are likely to contain implications for small schools in other regions, as well as for large schools. The project represents an organization unique to the education scene. For the first time, five State education agencies have agreed formally to cooperate in providing financial and moral support to small schools whose personnel are willing to experiment on solutions to their common problems.

Flexible scheduling, techniques for the one-room schoolhouse, programed instruction, teaching English as a second language, continuous progress programs, shared services, technological innovation are the areas being explored. Specific cases from all the above projects will be presented in the following section.

The Upper Midwest Small Schools Project

In 1963 the College of Education, University of North Dakota at Grand Forks, North Dakota, initiated a graduate program designed to inform a group of rural school administrators of the programs already in existence and of the changes in practice which had been effected. Since

that time this project has concentrated on an annual summer institute and on implementation and modification of findings for their own schools. The project covers a group of schools in North Dakota and a few in eastern Montana.

The Oregon Small School Improvement Project

This project is part of a larger program known as the Oregon Program. It has also been adopted as one of four special programs sponsored by the Northwest Regional Educational Laboratory funded by the Elementary and Secondary Education Act. The Oregon Program coordinates the efforts of a number of small schools in Oregon. The emphasis in these schools is curriculum innovation, teacher utilization, individualization of instruction, schedule modification and corollary activities.

The work of the Northwest Regional Educational Laboratory is more limited to research and theoretical design of special projects. At this time four research projects are reported to be in progress. They are:

(1) Activity 410: High School for One. Four teams, each made up of a systems designer, an academic specialist and a high school teacher, are working with consultants from industry to develop appropriate systems. Field testing will be in the spring of 1967, with redesigning during the summer and demonstration at several sites beginning in September 1967.

(2) Activity 420: Improving instruction in Small Schools. A multi-media self-instructional system in vocational mathematics is being developed and tested. Integrated with a system in basic electricity, it was tested this spring and demonstrated this fall. At the same time other mathematics systems relying heavily on computer assisted instruction will be tested in isolated schools of the region.

(3) Activity 430: Small School Guidance Project. A typical small, isolated school district with fewer than 200 students enrolled in the high school will be selected. Professional counseling staff members will be made available so they can spend considerable time with the staff and administration in planning an integrated and coordinated guidance program. It ultimately will serve as a demonstration school and source of research data.

(4) Activity 480: Elementary Rural Schools. Assessment and analysis of education in some of the region's small, isolated high schools have been completed, and further studies involving elementary schools are anticipated.

Dr. Elbie L. Gann

> A series of slide presentations and a sound film illustrating promising innovations at small schools throughout the nation have been developed. Dissemination conferences planned with State departments of education and schools are underway.

In a highly sophisticated effort this agency is carrying out a program in an isolated school in the State of Washington. The project couples some of the aspects of computer assisted instruction similar to that being tried in several other locations in America. A student station has been developed in crude form and the work has only just begun. This effort is experimental and highly expensive at this point.40/

The Alaska Rural School Project

In 1965 the University of Alaska, School of Education and Behavioral Science, initiated a program to:

(1) Train teachers about to enter service as teachers in the "bush" schools, and

(2) Develop curricular materials to assist the students and teachers to communicate in terms of the environmental and cultural situation in the native villages and the educational objectives.

This project has the cooperation and participation of the Alaska State Department of Education and United States Bureau of Indian Affairs.41/

PROMISING PRACTICES

Organizing for Instruction

Learning must be done by the individual. Although each learner is influenced by the people and materials around him, the change in behavior or attitude or understanding must be achieved first in his mind. The small school may more easily organize for individual learning and such organization need not necessarily be the same as in the large schools.

Such organization in philosophy, expectation of achievement, student grouping, teacher assignment, curriculum sequence, use of school time, and expected student behavior is good only if the combination provides excellent experiences for all youngsters. Cited are some innovations, with specific examples of their application.

Dr. Elbie L. Gann

Nongraded or Continuous Progress

The present single-grade class in elementary and secondary schools (large and small) assumes concept, understanding, and bodies of content can be packaged for a group of students. Today's standard teaching practices conjoining with the "content packages" imply that all students at one age or ability can learn the same thing at the same time. This forms the ill-conceived academic bed of Procrustes described by two authors when they object to the lock-step grade system wherein "the slow are pulled and stretched to fit the grade. Sometimes--'nonpromoted'--left behind, where presumably another year of stretching will do the trick. The quick are compressed and contracted to fit the grade. In time, they learn to adapt to a pace that is slower than their natural one."10/

To combat this anachronism, all small schools could attack some of their critical problems through ungrading the curriculum, and could thus provide for the continuous progress of students, in keeping with the realities of individual differences.

Some small schools are experimenting with new ways of organizing content that encourage and permit all students to develop and progress at rates in keeping with their individual capacities for learning.11/

As a first step in a continuous progress program "two teachers who are normally assigned the first and second, and second and third grades, respectively, in the Bicknell Elementary School in the Wayne School District experimented with ungraded primary units. Each teacher had approximately the same number of students from each of those three grades. The concept of continuous progress determines the level of materials and learning experiences for each child or group of children."12/

In Arizona, Kayenta is scheduling simultaneously four high school years of social studies and English, to facilitate team teaching, large and small group instruction, and to assist in the individual development of each student.13/

Springfield, Vermont, has developed a nongraded secondary school. The purpose of the plan is to enable students to gain machine trades experience while simultaneously pursuing a high school education. Since the community and school are small, all students requesting such work experience could not be accomodated during any one semester or quarter. Consequently, students were allowed to "take five weeks off" during the school year to gain the desired trade skills in a machine tool company.

Dr. Elbie L. Gann

Because all high school teachers then found their classrooms at any five-weeks period only partially filled with academic students, they found it necessary to devise methods, materials, study schedules, and teaching techniques which would assist students who ranged from little progress to advanced second semester achievement. Since it is known that the normal high school range of students' achievements far exceeds four years in one high school subject, it is not necessary, or even desirable, that all students be working simultaneously on the same point of learning.

Use of self-instructional materials, classes converted to consultation sessions for individuals and small groups, achievement tests taken by individuals at times of assignment completion, lectures presented by tape recorder, individual slide and movie projection stations, and rare plenary class sessions are all observable changes in the project school. The teacher functions often as resource organizer, consultant, tutor, and coordinator of learning. The student may proceed semi-independently in conventional text work, programed materials, and home assignments, and cooperative trades training. He will take tests, begin new units of work, prepare and conduct experiments, and discuss literature at the time when his intellectual and academic progress are adequate. Each classroom, at any given hour of the school day, may house students, grades 9-12, who are progressing through a given subject or discipline with the help of a range of materials and people. Through this organization, it is possible for a student to take a work program and continue work on his advanced English course in the evening. He may consult with the teacher after work, before school, or at other scheduled times. He is always enrolled as a student.14/

Team Teaching

Any team must have members who specialize so that the team skill is greater than the separate skills of its members. Team teaching in the small high school is no exception. An example would be two or more teachers from different subject teaching assignments who jointly plan, conduct, and evaluate a single class or parts of several classes. This may include large and small group and individual instruction, joint presentations, and cooperative evaluation of student achievement and of the program offered. The same plan might work with several teachers assigned to the same subject area -- a plan not usually feasible in the small rural school.

An example of the cross-discipline team was developed at Helena, Alabama. The block-of-time schedule (two or three hours scheduled for the course) allowed the two-teacher team greater flexibility in planning and teaching.

Dr. Elbie L. Gann

The Great Ideas theme:

> "comes from the organized knowledge of the social studies and the humanities, with special emphasis on history and literature. Because of the flexible use of time and the employment of team teaching procedures, the program requires facilities which permit assembling students in both large groups for lectures and demonstrations and (in) seminar-type groups for discussion activities."15/

Teacher Aides

Having aides should help professional teachers devote more time to their unique function of teaching. The routine tasks -- requiring skills extraneous to teaching -- are handled by a qualified, trained aide. "This plan cannot be promoted as a money-saver: Indeed, it will cost more money. But as a plan for the wiser use of teachers' time and, therefore, as a wiser expenditure of public funds for securing quality instruction, it will appeal to almost everyone."16/

In Quemado, New Mexico, one teacher explored use of an adult aide to assist her to improve the first and second grade reading program. The teacher's objectives were to increase the pupils' word recognition skills, and to improve the students' comprehension in word meaning.

Following is a quote from the teacher's report:

> "We felt our problems stemmed from an overload of clerical-type duties, together with several grades being taught by one teacher. ...(T)he goal was to be accomplished by using a teacher aide for routine clerical duties, supervision of follow-up seat work, and other such routine matters. The teacher would concentrate on the reading program and its various phases. . . The teacher aide performed a wide variety of duties. Some were daily; others as needed each week:
>
> Typing materials needed by the teacher
> Mimeographing and duplicating materials for classroom use
> Taking care of attendance records
> Collecting money
> Conducting opening morning exercises
> Oral sentence work with the first grade
> Flash card drill with the first grade
> Checking workbooks and papers (with teacher supervision)
> Helping children make up work after being absent (with teacher supervision)

Dr. Elbie L. Gann

Giving spelling tests to the second grade for individualized program
Checking out library books
Playground supervision"17/

Experienced teacher aides could provide extensive assistance in the starting activities for continuous progress classes. However, at this time, documentation is not available on this practice for small schools.

The One-Teacher School

In certain areas, the one-teacher school may be needed for some time to come.18/ As example, Nevada has seventeen school districts, corresponding in boundary to county lines. The Elko District exceeds in square miles the combined areas of Massachusetts, Connecticut, Delaware, and Rhode Island.

With its distances, scattered population (with few exceptions), and extensive district organization accomplishments, Nevada still has isolated one-teacher schools.

A prime example is the school in the mining camp of Scheelite, located nine miles from Dead Horse Well. According to the Nevada WSSP Director, the camp is quite inaccessible for as much as three months of the school year. In 1962-63, this school contained seven pupils--five in the primary grades, with the remaining two working on special needs because their educational achievement lagged far behind their chronological age of 14 years. The teacher had a multigraded and an ungraded school. A third-grade boy had as his own project a rather comprehensive study of the entire State; while simultaneously one 14-year-old had as her project the improvement of her own reading, using the tape recorder as an aid. Evaluation showed excellent growth by both students. With teacher help, the other students worked on similar but individual problems. All of the youngsters, including the first-graders, became proficient in use of tape recorders and projectors.19/

CLASSROOM ACTIVITIES

The core of instructional improvement in any school is the organization for learning. As contrasted to organization for instruction, this section considers the activities of the teaching-learning process within the classroom.

Dr. Elbie L. Gann

Multiple Class Teaching

This technique allows one teacher to offer two or more related subjects simultaneously. The subjects, usually at the secondary level, may be offered in one room or in several rooms. "In schools which have already employed this technique, the multiple subjects taught have been in related areas, with the thought that related subjects contain a core of 'common knowledge' which might be taught to all groups at the same time."20/

According to one analysis:

> "The role of the teacher is somewhat different in a multiple class. Students have more freedom to progress on their own initiative, responsibility, and rate of speed. The teacher's responsibility is less to hold the student's immediate attention and more to assist in new learning, guide and encourage progress and evaluate achievement. This gives the teacher more opportunity to adapt learning to local needs and to guide individual development."21/

A multiple class method of offering industrial arts and shop courses "consists of scheduling an individual general shop program throughout the school day." This is a nongraded course. The students may register for the general course at any free time during their scheduled day. At Port Gibson, Mississippi, "students begin each semester with two or three weeks in the classroom, during which time they study about industrial processes generally, concentrating on those processes which they will later be exploring in the shop-laboratory. In the shop, students engage in a variety of activities on a rotating basis, so that on any given day some will be working with woods, others with metals, and still others with electrical apparatus."22/

In Mosca, Colorado, a multiple class included auto mechanics, lapidary, and mechanical drawing. Five students took auto mechanics; two students, lapidary; and three students, mechanical drawing. The courses were offered for a total of 70 minutes, four days per week. Setting up a double class is not easy:

> "Difficulty arises the first week or two when the teacher must get each group started. . . . The teacher says, 'It was bedlam the first week, when no one knew what to do and the students all wanted help at once. But soon the students were all working on their own initiative at different speeds. It was then easy for me to rotate among them for help and checking.'"23/

Dr. Elbie L. Gann

In a New York school, a multiple class was offered in business law. The program was designed to meet differential needs and abilities. The students had different objectives in mind when they enrolled for the course, so that the class was divided into three groups: advanced businesslaw, college-prep, and practical business law. Learning guides were developed and made adaptable for individual use so that "each pupil might do as many activities as he wished."24/

Technological Assistance

Teaching relies for its effectiveness on the quality of its communications. Like other professions, teachers require added devices and equipment to assure excellence in learning experience.

The 16 mm or 8 mm movie projector can be used to enable the teacher to team up with "experts on film." One solution to the problem of limited teacher qualification or time is the use of the Harvey White Physics and John Baxter Chemistry series. Both are complete high school courses on film. The excellent lectures and demonstrations on film, if combined with individualized activities provided by the local teacher, have provided a high quality science offering.

> "Juniors and seniors at Ridgway, Colorado, enetered a basement room for their physics films. The blinds were adjusted and a student projectionist started the film, while others prepared for note-taking. Meanwhile, across the hall, the teacher led the general science class in a discussion period. These students then studied while the teacher expanded upon the film and gave individual attention to the physics students."25/

The tape recorder is also effective in providing teacher flexibility. For instance, it is now possible for a capable teacher to be several places at once. The teacher at Bennett, Colorado, taught typing I and shorthand I simultaneously. In his classroom the shorthand youngsters were grouped surrounding the tape recorder, the typing students faced in another direction. Sometimes the groupings were reversed.26/ By taping a class lecture prior to its delivery, he accomplished several tasks:

> He closely supervised his typing students while the tape recorder gave directions.
> He taught another class on the other side of a glass partitioned room.
> He was out of the room on a field trip, on consultation or in the projection room with a film.27/

Dr. Elbie L. Gann

In 1963, several Colorado schools conducted an experiment using the amplified long distance telephone as a teaching device. The general plan was to demonstrate that five schools located at distances ranging from 265-124 highway miles from Western State College could simultaneously conduct a classroom lecture and discussion. Using the conference-call facilities of the Mountain States Telephone Company, small high schools in five separate points of western Colorado were connected to the college campus. The college professor, seated in his office in the College at Gunnison, delivered a 30-minute lecture simultaneously to the American History classes in each of the five schools. On the following day, the students held a 30-minute question period by telephone with the professor. The plan was considered workable because:

> "The quality of questions was good when the students were not confronted with an immediate pressure to perform. Some research and review was possible at the end of the lecture and prior to the question session."

Lecture topics selected for the series were The Roaring Twenties, The Depression Decade, and Hot War -- Cold War.

According to the report, the advantages of the telephone amplified lecture are:

> "Availability of specialized lecture personnel on a short-term basis.
>
> "Simplicity in preparation, i.e., the lecturing professor need not travel 200 miles one way to deliver the lecture.
>
> "Availability of instantaneous two-way communication (an advantage over conventional television, taped or printed lectures, or radio)."28/

This technique has since been used in several other States and is a routine arrangement in many colleges for lecture classes between colleges.

SHARING PEOPLE AND SERVICES

Cooperation in attacking a problem is a rural tradition. This applies to family, the community, and farm and ranch business. The principle, as applied to rural schools and called "shared services," may include sharing of facilities, teachers, students or equipment. The simplest form, the shared purchasing of supplies, may reduce the per student cost because of bulk rates available. Also, districts may jointly contract for specialists whose time and talents would be wasted in a single, low enrollment district. Less traditional programs may share regular teachers and sometimes able students.

Dr. Elbie L. Gann

Sharing Teachers

"At 8:00 a.m. on a given morning in Duchesne, Utah, one could see five teachers form the high school drive north on the highway to Altamont. About twelve miles out of town they could wave to a similar carload of Altamont teachers going to Duchesne. This is the Duchesne County School District 'shared teachers' program in action. The result -- teachers teaching only those subjects for which they have a college preparation, fewer daily preparations for teachers, and students being better taught than ever.

"The 'traveling' teachers in this district exchange on alternate days. To accomodate this arrangement, classes meet for 100 minutes."30/

Sharing Able Students

Small schools admittedly have not provided challenges for the able and gifted. Part of the reason is, again, too few students to justify the cost of a special program.

The partial answer -- "pool the gifted students by bringing them together periodically for advanced, cooperatively developed 'seminars in ideas.'" This program can be provided by Saturday programs at a college campus,31/ by after-school or evening sessions32/ or by released time from school. The programs, usually for no academic credit, are to afford the "panoramic view" in the field of ideas. Other organizational concepts could provide deeper or different experiences, according to the objectives developed by the participating schools.

MODIFIED SELF-INSTRUCTION

Too few teachers, transfer students' demands, broadening students' perspectives, and increased pressures for continuous progress programs have forced development and use of techniques and materials which facilitate individualization of instruction. Such instruction frees students to progress individually. Also, such flexible student progression "will require some individual teaching and guidance, some small group instruction, some partner instruction, and a certain amount of large class instruction."33/

This does not require face-to-face teaching at every instant. However, it requires some latitude and freedom and many special materials.

Supervised Correspondence Instruction

This may broaden the school's course offering, aid the qualified teacher in providing self-instructional materials for students, or help the new teacher get a subject matter foundation. "Those who have had experience with this method seem to feel that unless the word 'supervised' is taken

in its most literal meaning, the chances of success will be lessened considerably."34/

A teacher at Simla, Colorado, supervised a double class correspondence course, Spanish I and II. He says about the courses:

> "I teach toward the work sheets which the college sends us. I give a six weeks' grade, based on speaking and general work. We listen to records and use the tape recorder to check our pronunciation. . .the tape recorders assist us a great deal in offering a course like this."35/

Sequenced Self-Instructional Materials (Programed Learning)

Use of good programed materials opens nearly unlimited possibilities for the small school. The following description from the journal of a New Mexico teacher clearly indicates methods and organization, combining programed instruction with multiple class teaching:

> "I used the SRA programed text in Modern Mathematics for Albegra I. Seventeen freshmen were enrolled and used the materials. Some of the students, together with a transfer, were not able to enroll for this course at the regular hour due to conflicts. Consequently, the five (one senior, two juniors, and two sophomores) took the course in a multiple class situation with Algebra II, and one took it during a studyhall. Especially at the first of the year, I used a few minutes at the beginning of the period to discuss new topics. Later, that practice seemed to become impractical because of the different rates of student progress. A topic might not be pertinent to more than two or three. Instead, I helped them individually or in groups of two."36/

Variations in student progress require modifications of reporting their achievement to parents. In Des Moines, New Mexico, "the method of reporting . . . is not through use of letter grades A, B, C, D, and F. Instead, a special card reports the student's progress on an individual linear scale of advancement through the course. No letter grades are given except as colleges and employers request semester grades. Then a conversion scale is used."37/

Dr. Elbie L. Gann

FLEXIBILITY IN SCHEDULING

All schools are equal on the clock. However, minutes for learning can be used more effectively and here the small school has the advantage of potential flexibility. The rigid time schedule in the small school is both unnecessary and contrary to the limited research evidence available.

As stated earlier, the learner's needs, abilities, and rates of learning vary widely. "It seems logical, therefore, in scheduling, that the length of (learning experiences) should vary according to the nature of the subject, type of instruction, and abilities and interests of the pupils."38/

Methods of providing flexibility vary widely, from reducing scheduled learning periods to modules of 30 minutes (so that a period may be 30-60-90-120 minutes long), to increasing periods to 100 minutes to facilitate shared teacher's programs. Other variations are possible, including "floating periods," rotating periods, classes which meet more than once daily, and other classes which meet less often than daily. For those schools having rigid State or other requirements, it is possible to have "half the schedule constant to allow for legal or traditional rigidity, with the other half (morning or afternoon) flexible."39/

CONCLUSION

The isolated small school does not need to be inferior any more. These several projects have now accumulated and documented enough improved practices that any small school that desires to achieve higher quality need only institute the practices already clarified.

First, there must be community and school board support. Unfortunately, the level of aspiration of many rural, isolated communities is limited to the extent that more provincial interests prevail. All too frequently the isolated small community feels inferior and very much on the defensive. Frequently they deal in such cliches as "most of our students go on to college" and fail to examine how many drop out of college before graduation and what becomes of those who do not go on to college.

Secondly, an experienced and highly trained faculty is needed. The training of the faculty should be based on strong undergraduate programs covering both subject matter preparation and methodological preparation. Following that, there should be special programs of in-service training drawing on the teacher utilization and small school projects. Assisting these teachers should be aides and such paraprofessionals as can be directly of assistance in supplementing the instructional efforts of the teachers.

Dr. Elbie L. Gann

In a practical vein, three things should be done to assure securing good teachers and retaining them for a desirable length of time. (1) A carefully constructed and implemented recruiting and selection program should be carried out. (2) Only experienced teachers, highly trained and who are committed to constant retraining should be employed. (3) Salaries well above the average should be paid; merit pay provisions should be in practice, and the regular schedule should be limited to five routine increments with any additional increments being on a negotiation basis. This type of provision would simply recognize that most highly competent teachers seldom remain in the small schools for very long anyway. Attention should be given to housing and living conditions so that the families of teachers will enjoy the fine advantages of rural living. The curricular program should be almost a total break with tradition and a careful implementation of the myriad findings available now.

The upgrading of isolated small schools has come a long way in ten years. It would be a fallacy to assume that nothing further needs to be done. This paper has attempted to state the problems, the strengths of small schools and certain of the practical solutions which have been demonstrated and documented. Obviously, the paper does not provide enough solutions. For instance, it strikes only a glancing and feeble blow at rural school finance. It provides no new ideas for suddenly increasing numbers of students, where this would be desired. Although an excellent administrative organization may attract good teachers and hold them longer, if they employ new techniques, they will probably need to work just as hard, or harder.

The paper has attacked more directly the problems of limited human resources, understanding, and teaching methodology. By different organization within the school and the classroom, and by selective use of new technological devices, methods, materials, and know-how, the necessarily small school may climb from its present reputation as the "graveyard of public education." The concept of individualizing instruction and of "continuous progress" for each youngster, if blended and combined with applicable methodology, could provide the true answer to the small school's problems. However, sufficient teachers are still not available who know how and are willing to experiment on this blend.

This document provides no answer to the greatest problem--that of enlightened leadership for the small school. This may be chiefly a problem of money -- "too little pay for good men." Although money may be a partial answer, the author believes the problem to lie deeper. The heart of the challenge probably resides in the changing structure of society, the values of which are attached to a highly urbanized and industrialized nation. The complicated corporate structure which underpins and enmeshes the modern society is now so completely accepted

(and often little understood), that simplicity or organization found in rural school systems is regarded by many as inferior. Attracting and holding superior leaders, willing constantly to swim against the current of human understanding, may be all but impossible.

One of the most promising developments of the several small school projects is just now taking shape. Recently there has been formed the National Federation for the Improvement of Rural Education. NFIRE is a consortium of institutions, organizations and agencies actively interested in projects designed to improve the quality of education in small rural schools. It will provide a communications center and clearing house for rural small school projects and other projects which involve practices which are promising for these schools.42/

The disadvantaged rural child becomes the disadvantaged urban slum dweller. It should be recognized that many urban problems have their roots in rural settings. Because of this, the rural school improvement projects are important for all of America.

Dr. Elbie L. Gann

FOOTNOTES

1. Gann, Elbie L. A study of the Occurrence of Small High Schools in America, Fund for the Advancement of Education, Ford Foundation (unpublished) 1960.

2. Bohrson, Ralph G. "The Small High School, Its Strengths and Limitations." Bulletin of the National Association of Secondary School Principals, April 1963, 47, 113.

3. Catskill Area Project in Small School Design. The Catskill Area Project in Small School Design, Oneonta, New York, 1959, pp. 2-22.

4. Beecher, George. The Educational Resources Program, Report of the Project, Goddard College, Vermont, 1959.

5. Colorado State Department of Education. "The Rocky Mountain Area Project for Small High Schools, An Explanatory Brochure." (out of print) 1958, pp. 1-5.

6. Buckland, Roscoe V. (ed). Rural School Improvement Project, Report, Sponsored by Berea College, Lexington, Kentucky: Transylvania Printing Co., 1958, p. 118.

7. Bucknell University. Newsletter, Upper Susquehanna Valley Program of Cooperative Research, Lewisburg, Pennsylvania, 1960, pp. 1-6.

8. Texas Education Agency. Summer Workshop, Texas Small Schools Project, Austin, Texas: 1960, pp. 20-26.

9. Colorado State Department of Education. Western States Small Schools Project, op. cit., pp. 13-25.

10. Goodland, John I., and Anderson, Robert H. The Nongraded Elementary School, Harcourt Brace and World, Inc., 1959, p. 1.

11. Stutz, Rowan C. Opportunity Knocks for Utah's Small Schools, Utah State Department of Public Instruction, 1963, p. 17.

12. Stutz, Rowan C., op. cit., p. 3.

13. Zuchowski, John M. "A Report by the Arizona Director of the Western States Small Schools Project," (unpublished), p. 1.

Dr. Elbie L. Gann

14. Ragle, John W. "From Work Experience to Sophocles, How a Junior-Senior High School Provides for Individual Needs." NEA Journal, May 1959, 15-16.

15. Nimnicht, Glendon P. and Partridge, Arthur R. Designs for Small High Schools, Greeley, Colorado: Colorado State College, 1962, p. 45.

16. Ford, Edmund A. Rural Renaissance, Revitalizing Small High Schools, U. S. Department of Health, Education, and Welfare, Office of Education, Bulletin No. 11, 1961, p. 41.

17. Dunn, Rex S., et al. "Use of Teacher Aide to Improve the Reading Program, Grades 1 and 2," Quemado School Progress Report, (unpublished), New Mexico Western States Small Schools Project, 1963, pp. 6-7.

18. American Association of School Administrators and Department of Rural Education of the National Education Association. School District Organization, Journey that Must Not End, 1962, p. 5.

19. Jesser, David L. "A Report by the Nevada Director of the Western States Small Schools Project," (unpublished), 1963, p. 2.

20. Jesser, David L. "Multiple Class Teaching." New Dimensions for the Small Schools of Nevada, Nevada Department of Public Instruction, 1962, p. 9.

21. Cyr, Frank. "The Multiple Class." Compass, American Association of Commercial Colleges, Washington, D. C., February 1961, 25, 3.

22. Nimnicht, Glendon P. and Partridge, Arthur R., op. cit., pp. 28-29.

23. Beal, Wanda, The Small High School, Colorado Accepts the Challenge, Colorado State Department of Education, 1961, p. 6.

24. University of the State of New York, State Department of Education. Multiple Class Teaching Used in Small Group Experimental Business Education Courses, 1962, p. 17.

25. Beal, Wanda, op. cit., p. 17.

26. Atencio, Armando. "Teaching Typing and Shorthand in the Same Room at the Same Time." Business Education World, January 1961, 41, 5.

27. Beal, Wanda, op. cit., p. 17.

28. Beattie, Thomas A., and Frick, Paul S. "Telephone Method of Teaching, A Report to the Colorado Director, Western States Small Schools Project," (unpublished), 1963, pp. 1-6.

29. Anderson, Frank A., and Nachtigal, Paul M. "Progress Report, Colorado Western States Small Schools Project," (unpublished), 1963, p. 1.

30. Stutz, Rowan C., op. cit., p. 13

31. Catskill Area Project in Small School Design. Sharing Educational Services, Oneonta, New York, 1960, p. 13.

32. Beal, Wanda, op. cit., p. 21.

33. Read, Edwin A., and Crnkovic, John K. The Continuous Progress Plan. Provo, Utah: Brigham Young University, 1963, p. 6.

34. Jesser, David L., op. cit., p. 13.

35. Beal, Wanda, op. cit., p. 19.

36. Clendenin, Mary Jo, Report of Cloudcroft's Activities in the New Mexico Western States Small Schools Project.

37. Chavez, Dan D. "Progress Report, State of New Mexico Western States Small Schools Project," (unpublished) 1963, p. 4.

38. Stutz, Rowan C., op. cit., p. 10.

39. Jesser, David L., op. cit, p. 8.

40. Improving Instruction in Small Schools, Northwest Regional Educational Laboratory, 710 S.W. Second Avenue, 400 Lindsay Building, Portland, Oregon 97204, 1967.

41. The Alaska Rural School Project, Annual Report to the Ford Foundation, University of Alaska, College, Alaska 99735, 1967, (unpublished).